

Customer No.: 31561
Docket No.: 11182-US-PA
Application No.: 10/710,582

AMENDMENTS

In The Drawings

FIG. 11 has been amended to correct the reference number of elements.

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REMARKS

Present Status of the Application

The Office Action rejects claims 1-7. Specifically, the Office Action rejects claims 1 and 3-6 under 35 U.S.C. 102(e) as being anticipated by Honda (U. S. Patent 6,696,764). In addition, the Office Action also rejects claims 1 and 2 under 35 U.S.C. 103(a) as being unpatentable over Song (U. S. Patent 6,031,284) in view of Honda. The Office Action also rejects claims 1 and 7 under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (U. S. Patent 6,570,469; hereinafter Yamada) in view of Honda. Applicant has cancelled claims 3-7 and amended claims 1-2 to improve clarity. Applicant has also added claim 8. After entry of the amendments, claims 1-2 and 8 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Claim Rejections under 35 USC 102

The Office Action rejects claims 1 and 3-6 under 35 U.S.C. 102(e) as being anticipated by Honda. Applicant respectfully traverses the rejections for at least the reasons set forth below.

With respect to amended independent claim I, as for example, shown in FIG. 6 and FIG. 7A, the circuit layer 206 of the substrate is singulated, so that the separated portion 250 (see FIG. 7A) has no the substrate core layer 204. In other words, the substrate core layer of the substrate to form the cavity is removed after singulating the substrate.

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In re Honda, as clear shown in Fig. 9B and Fig. 9C, the cavity formed from the substrate 1 still exists in the final chip. In addition, the cavity of Honda is also filled with the sealant material 15. Therefore, Honda discloses at least the different singulating method from the present invention.

For at least the foregoing reasons, claim 1 defines over Honda. With at least the same foregoing reasons, claim 8 defines over Honda as well.

Discussion of Claim Rejections under 35 USC 103

The Office Action also rejects claims 1 and 2 under 35 U.S.C. 103(a) as being unpatentable over Song in view of Honda. Applicant respectfully traverses the rejections for at least the reasons set forth below.

With respect to claim 1, it is for example shown in FIG. 7A as discussed above.

With respect to claim 2, the features are for example shown in FIG. 10 and FIG. 11.

As a result, the substrate core layer 204 for forming the cavity is removed.

In re Song, as shown in FIG. 4E, Song does not disclose the singulation on the substrate as recited in claim 1. The cavity in Song is reserved in the final structure. The Office Action then also combines Honda in rejection. Applicant respectfully disagrees.

Honda, as discussed above, also reserve the cavity after singulation.

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For at least the foregoing reasons, claims 1-2 and 8 define over Song in view of Honda.

Discussion of Claim Rejections under 35 USC 103

The Office Action also rejects claims 1 and 7 under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of Honda. Applicant respectfully traverses the rejections for at least the reasons set forth below.

Claim 7 has been cancelled.

With respect to claim 1, it is for example shown in FIG 7A as discussed above.

As a result, the substrate core layer 204 for forming the cavity is removed.

In re Yamada (FIG. 3 and Fig. 4), even though the cavity is used to adapt the flip chip 4, the cavity filled with the sealant 6 is reserved in the final structure. In other words, Yamada at least disclose the singulating step to remove the cavity as recited in claim 1.

Honda failed to disclose the features as previously discussed.

For at least the foregoing reasons, claim 1 defines over Yamada in view of Honda.

Claim 8 also defines over Yamada in view of Honda.

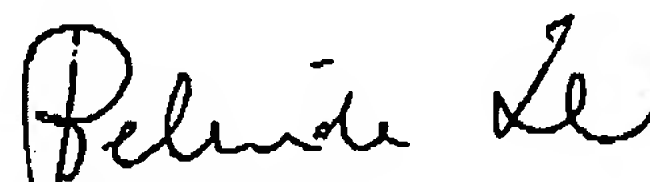
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CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1-2 and 8 of the invention patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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